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ABSTRACT

This paper discusses the range, frequency, structure, and content of teachers' professional and interpersonal relationships in their schools, describing data from a study of teacher cultures and collegiality. The study, which involved two Portuguese secondary schools, examined the informal networks of collegial and interpersonal communication ties among teachers and how the networks structured teachers' work experiences. Using a questionnaire and interviews with teachers, student teachers, department heads, and school administrators, researchers collected data from over 100 individuals at each school on collegial and interpersonal ties with others. Professional relations were characterized in terms of the frequency with which they occurred and the intensity of the relations. Results suggested that teachers interacted more with friends than acquaintances about professional matters. Two-thirds of all professional relations involved friendships between teachers. Professional and close friendship cliques rarely overlapped in membership. Working with close friends in schools significantly influenced how teachers approached their work (e.g., reducing anxiety and facilitating mutual agreement), though it restricted and hindered the accomplishment of several important job-related tasks. The paper discusses the issue in terms of: improving the study of form in teachers' cultures; exploring the network properties of teachers' collegial relations; combining qualitative and social network data; paying systematic attention to the role of friendship in collegial interactions; and emphasizing the importance and functions of weak ties in teaching. (Contains 68 references.) (SM)

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IMPROVING THE STUDY OF TEACHER COLLEGIALITY:

Methodological Issues

by

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Introduction

Internationally, the last decade and a half has witnessed a major thrust of research on teachers' cultures, particularly teacher interaction. Surveys and ethnographies have illuminated important aspects of this side of teachers' professional lives in schools. Today, we have fine theoretical analyses and in-depth ethnographies of collegial cultures, as well as heuristically interesting typologies of teachers' relations with one another (e.g., balkanized, bundled, split, collaborative, etc). Yet, the ground to be covered is still great and our understanding of teacher cultures is in many ways still quite limited.

There is a strong need for improvement in the field in several respects. First, speculation seems to be far in front of a sound empirical base. Typically, the published international research on teacher collegiality examines a (usually small) set of teachers' narratives of the quality and the type of relationships they have with their colleagues. From this, it builds portraits of how teachers "get along" with one another and the types of artifacts and feelings they share with (or conceal from) one another. While this has undoubtedly been a fruitful and important line of research, it has also limited our ability to understand and theorize teachers' occupational cultures in more complex ways.

In order to better conceptualize these cultures, it is necessary to adopt more theoretical sophistication and empirical rigor. More comparative and cross-cultural analyses are also called for, as well as longitudinal studies that address how teachers' collegial ties evolve over time. More scope in analysis is also needed. This entails, in particular, studying more types of relations.

Of particular interest for analysis are "hybrid" connections between teachers (e.g., teacher friends who collaborate professionally). We still know very little about these relations in teaching. Despite a recent trend toward the study of friendship (e.g., in psychology, social psychology, and communication studies) and accumulated evidence of the impact of informal friendship networks on the internal life and functioning of work organizations, scholars working in the educational field have been slow in recognizing the potential benefits of this trend of research for their discussions of teacher cultures.

We also need to carry recent methodological refinements in the social sciences into the field of educational research. For example, few academics have concerned themselves with the network characteristics of teachers' professional and personal ties in schools.[1] Most researchers refer to these relationships in broad, vague, and imprecise terms, rather than using systematically operationalized concepts to address them.

This paper focuses on the range, frequency, structure, and content of teachers' professional and interpersonal relations in their schools. It integrates research questions traditionally addressed in studies of teacher collegiality with new questions bearing on personal relations in teaching and their interplay with collegial interaction.

In the paper, I argue that there are several paths that we can follow if we are to take our understanding of teacher cultures further. More specifically, we can achieve this goal by:

1. improving the study of the *form* of teachers' cultures;
2. exploring the network properties of teachers' collegial relations in greater depth;
3. combining qualitative and social network data in our research designs;
4. paying systematic attention to the role played by friendship in teachers' collegial interactions;
5. emphasizing the importance and functions of weak ties in teaching.

The paper reports upon data collected in a study that addressed these issues.

The study

The research study was conducted in two large secondary schools - Greenhouse and Blue River - in a medium-sized Portuguese town. It focused on the informal networks of collegial and interpersonal communication ties among teachers in the schools, and the way these networks structured (and were structured by) their work experiences. Within each

[1] Siskin's (1994) case is an honorable exception. But her use of network concepts and techniques is restricted, if we consider the potential of this line of inquiry. A more thorough analysis is conducted by Bakkennes (1996) but, unfortunately, her approach to professional isolation in teaching is exclusively quantitative.

school, the study collected data from staff members (101 in Greenhouse, and 132 in Blue River) with respect to their collegial and interpersonal ties with other teachers in the school. Additionally, the study focused intensively on two subject departments (English and Math) within each school.

Data collected from every staff member in each school referred to the following issues:

- with whom they interacted in their school and department;
- what kind of personal relation they had with these associates;
- what they interacted about;
- how frequent this interaction was over time.

More in-depth data collected in the two target departments in each school extended this pool of information by collecting information on:

- why teachers chose their informal work associates (and why they rejected others);
- how they organized their work with these people, and how they justified it;
- how they perceived the interaction environment in their school and in their department, and how this affected their professional conduct;
- what impact their collegial and personal associations had on their work lives.

The study adopted the view that there are different networks of relations operating simultaneously within an organization (e.g., a school), each of which is based on a particular type of relation (e.g., professional, or affective) (Lincoln & Miller, 1979). To identify these networks, besides *attribute* data, the study collected *relational* data, which refer to the types of interaction in which teachers were involved in the schools. Relational data were classified in two major categories. *Professional interaction* data refer to the contacts between teachers in areas of work activity in their schools. Six professional interaction types were considered: talk about pupils; talk about professional practice; exchange of teaching materials; joint elaboration of teaching materials; joint planning of lessons; and joint teaching or exchange of classes. *Interpersonal interaction* data refer to the type of personal ties linking teachers to one another. Although relationships exist on a continuum of closeness and intimacy, this study focused on three basic types of relations: acquaintanceship, friendship, and close

friendship.[2] In short, the data set in the study is multirelational, with two relations: professional, and interpersonal. The study provided accurate specifications of the strength and frequency of the relations being studied. Professional relations were characterized in terms of the *frequency* with which they occurred over an academic year. As to personal relations, respondents assessed subjectively the *strength* (or intensity) of their relations with their colleagues. All relations were measured in a single period in time (mid May-late June 1995).

Methodology

Methodologically, the research project combined quantitative and qualitative approaches. Data were collected through (1) a sociometric questionnaire distributed to all teaching staff in the two schools; (2) semi-structured in-depth interviews with experienced teachers, student teachers and heads of department in the Math and English departments in each school; and (3) semi-structured interviews with the heads of the schools. Additionally, non-participant observation was used. Analytically, traditional survey methods were complemented with social network analysis techniques, content analysis of interview narratives, and research field notes.

1. IMPROVING THE STUDY OF *FORM* IN TEACHERS' CULTURES

Andy Hargreaves (1992) has conceptualized teacher cultures in terms of two main components: content, and form. Culture *content* refers to "the substantive attitudes, values, beliefs, habits, assumptions and ways of doing things that are shared within a particular teacher group, or among the wider teacher community". Culture *form* consists of "the characteristic *patterns of relationship* and *forms of association* between members of those cultures" (p. 219).

[2] For a discussion of this and other typologies, see Lima (1997).

Little (1990: 523) complains that studies of teacher collegiality and collaboration have given precedence to form over content. However, many relevant issues related to the form of teacher cultures have not yet been adequately explored. Rather than giving precedence to one component over the other, we need studies that complement the examination of content with that of form in comprehensive and systematic ways.

As Little (1990) observes, the term *collegiality* has remained "conceptually amorphous and ideologically sanguine" (p. 509). It contains "unexamined assumptions about the nature, the extent, and import" of teacher-to-teacher interactions (p. 511). The field of educational research is in need of more precise conceptions of this phenomenon. As she puts it, we need "a conception of collegiality that goes well beyond a loosely constructed sense of 'getting along' and 'working well together'" (p. 511).

As Little points out, one way of improving our conceptualization of teacher collegiality is by distinguishing between "weak" and "strong" forms of interaction among colleagues, and studying how each influences the content of collegial interactions. In her view, strong forms of teacher collegiality differ from weaker ones in "the degree to which they induce mutual obligation, expose the work of each person to the scrutiny of others, and call for, tolerate or reward initiative in matters of curriculum and instruction" (pp. 511-512). Accordingly, Little suggests a provisional continuum of four ideal-types of collegial relations between teachers that differ from one another in their frequency and intensity of interaction, prospects for conflict, and probability of mutual influence. Little's four ideal-types are: (1) storytelling and scanning for ideas, (2) aid and assistance, (3) sharing, and (4) joint work. Little reserves the term collaboration for the latter type of interaction. For her, this is the only truly consequential form of collegiality in teaching.

For the purposes of this paper, Little's work is important in two main respects. First, it identifies some of the major content areas where teacher collaboration may potentially take place in schools. Second, it proposes clear criteria to determine the intensity with which teachers engage in interaction in these content areas. The study reported in this paper built on Little's argument. In the context of the quest for a more precise conceptualization of teacher

collegiality, it devised a measurement-based approach toward defining and disaggregating teacher collegiality more clearly.

More specifically, I propose that teacher collegiality can be empirically assessed through the use of three main criteria:

(a) *range of interaction* - for a teacher culture or subculture to be collegially strong, its members must interact with significant ranges of colleagues.

(b) *frequency of interaction* - the relations that these members establish with their colleagues must result in frequent contacts.

(c) *breadth of interaction* - these relations must cover a range of important content areas of teachers' work life, rather than being exclusively centered around very specific work issues.

Each of these criteria warrants careful examination. The idea behind the *range* criterion is to quantify the number of colleagues with whom teachers engage in professional relations and to make a judgment about this number in relation to a reference point above which it may be considered "strong" or "weak". There are several alternative ways of doing this. Ideally, this reference point would be a cross-national or national collegial standard. But, unfortunately, there is no indication in the literature or anywhere about where to draw an absolute standard within a national culture of what "strong" or "weak" collegiality is. Therefore, we are forced either to draw a measure that is somewhat arbitrary and defined relative to a value judgment about what strong collegiality is; or to use a value extracted from the data that are available, as a standard for comparison and classification. For example, if we worked with a large representative sample of schools, we could take a mean measure within it and use this measure as a cutoff value in relation to which each school or department's range of collegiality would be classified as "strong" or "weak".

When working with a small sample of schools, a third alternative is to take a cutoff point from *within each school*. In this case, what we do is compare each department within each school to the school's average range of collegial activity. Departments that display ranges of interaction that are significantly higher than the others within the school on a particular measure of collegiality are characterized as "collegially strong". Departments

displaying interaction ranges that are significantly below the others are characterized as "collegially weak (or inactive)".

This analytical strategy focuses on schools' *internal* variability of interaction ranges. It cannot answer the question of how strong or weak the schools are in relation to the general system. The statements that are made about each school's interaction patterns are not absolute, but rather *relative* ones that compare each department with the average situation of the other departments in its school. Theoretically, this means that, in a school that is generally "inactive" from a collegial point of view, a department that is somewhat less inactive than the others may show up in the upper ranks of collegial activity and thus be taken as more active than them. Conversely, in a school where virtually all departments are collegially "active", a department that is collegially less active than them (but, nevertheless, more active than the "less inactive" ones in the former school) may appear as relatively inactive in relation to its school's average situation. Therefore, care should be taken in avoiding to interpret the results obtained through this procedure. What the procedure shows is that, *within each school*, departments may display distinct collegial levels of collegial activity with respect to one another. This may not allow, however, for direct comparison between departments *across* schools. In other words, being an active department in one school may not mean the same as being an active department in another.

This disadvantage would have particularly serious consequences for interpretation if the schools under analysis were very different from one another from the point of view of collegial activity. It is thus important to examine the overall patterns of the schools first, prior to looking into departmental values. The latter ones will only make sense in the context of the former. The researcher must ensure that the schools are not significantly different from one another in terms of critical variables related to teacher interaction. If this is the case, then these within-school procedures may be followed and comparison across schools is appropriate.

However, this does not do away with the more general problem of knowing what the results mean in relation to a wider system. In this respect, a wider representative sample would be called for. In spite of this shortcoming, this procedure serves to illustrate that,

rather than appealing to common sense about collegiality, researchers should define explicitly their criteria. This may thus be interpreted as a challenge both to the ways people measure collegiality and the value positions that they make in doing so.

A very important step in the measurement of teacher collegiality has been taken by researchers working at the Center for Research on the Context of Secondary School Teaching, at Stanford University, USA (e.g., McLaughlin, 1993; Siskin, 1994). These researchers have developed a "collegiality index" that combines five survey items to construct a 5-30 scale. The five items are:

- You can count on most staff members to help out anywhere, anytime - even though it may not be part of their official assignment.
- Teachers in this school are continually learning and seeking new ideas.
- There is a great deal of cooperative effort among staff members.
- Staff members maintain high standards.
- This school seems like a big family; everyone is so close and cordial.

(Siskin 1994: 105)

These items are combined into an index to create a measure of collegiality. Respondents rate each item on a six-point scale, indicating the extent to which they agree or disagree with the statement included in it.

Based on this kind of information, McLaughlin (1993) presents a mean collegiality value extracted from a national sample of public school teachers, and compares school and department means in her database to this national "typical" value. Yet, despite its interest and potential, what this index actually measures is teachers' *views* of their schools in terms of others' willingness to help (item 1), commitment to professional learning (item 2), willingness to cooperate (item 3), commitment to high standards (item 4), and feelings of closeness and cordiality (item 5). In short, it measures *perceptions* of collegial environments, rather than *actual collegial interactions*. Smylie (1988) avoided this problem by collecting data on both teachers' perceptions of their work environment *and* their actual interactions with their

colleagues. He calculated "average daily rates of interaction about instruction" (see p. 16), as the sum of teachers' total number of interactions about instruction, divided by the number of days during which those interactions occurred. However, the latter information was collected by asking respondents to report on their interactions over a very short period of time, the 3 days immediately prior to the time of data collection. Thus, the data that were collected may not have been typical at all of teachers' day-to-day interactions in their schools over the academic year.

Regarding *frequency* of interaction, respondents in the Portuguese study were asked how often they had interacted with each of their colleagues for professional purposes during the academic year. Four answer alternatives were provided to them: never; once or twice; three to five times; and six or more times.[3] This criterion helps clarify Little and McLaughlin's (1993) concept of *intensity* ("the distinction between strong and weak ties among teachers with respect to professional practice and commitment" - p. 6). The same issues discussed above for range of interaction can be raised with respect to the frequency criterion. There is no empirical or theoretical illustration in the literature as to what "frequent" interaction actually is. The study opted for a conservative approach to the issue, judging as "frequent" every relation that yielded an average of at least two contacts between colleagues per school term.[4] This definition of "frequent" is, of course, arbitrary, and may be questioned. Despite this, it has the advantage of defining exactly what is meant by "frequent" and "infrequent" and, therefore, permits comparison across other studies.

As to the *breath* criterion, the issues are less problematic, since many of the studies conducted so far give a clear idea of what the professionally consequential content areas of teacher collegiality are. However, most of the existing studies do not satisfy Little's (1990) call for a consideration of diverse areas of collegial activity in schools. For example, Smylie's

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[3] In this respect, Bakkenes (1996) used an alternative procedure, asking respondents to indicate on a 7-point scale how frequently they communicated with every other staff member about work-related matters. Scale points ranged from 1 ("never") to 7 ("daily"). It is likely that such a procedure is more accurate and yields more robust data than the one used in the Portuguese study. However, Bakkenes worked with primary schools with staff ranging from ten to nineteen people, which made the process of data collection much easier than the one conducted at Blue River and Greenhouse, two large secondary schools that surpassed one hundred teachers each. Since in the latter case teachers were asked to rate a very high number of colleagues, the study opted for a simpler scale.

[4] Since the academic year in Portugal is organized into three school terms, "six or more times" means that, on average, teachers interacted on a specific topic at least twice each term.

(1988) measure refers to interaction about instruction in only broad and vague terms. Similarly, in her network approach to staff relations, Siskin (1994) simply asked teachers to list colleagues with whom they "talked regularly" about their teaching (see her Appendix B, p. 199).

In contrast, the data discussed in this paper refer to the number of interaction partners with whom teachers engaged informally in a wider set of types (or content-areas) of professional-related interaction: (1) talk about student behavior; (2) talk about teaching practice; (3) exchange of teaching materials; (4) joint development of materials for student use; (5) joint planning of lessons; and (6) joint teaching or exchange of classes. Teachers in both schools were asked to indicate *with which* of their school colleagues they had maintained a relationship of each type, and *how often* this had occurred during the school year.

The analytical criteria described above were used in Blue River and Greenhouse. The data indicated that one can get very different pictures of collegiality depending on the measures that one uses, the content areas on which one focuses, and the contexts of teacher-to-teacher interaction that one examines. Namely, sticking to verbal interaction about professional practice would probably lead many to view Blue River, for example, as a fairly "collaborative" school. In fact, on average, teachers in it were involved in collegial conversations about teaching practice with 3.5 colleagues (2.7 % of the school's teaching staff). Of the total teaching staff, only 16 % did not talk about professional practice with any colleague, whereas 26 % talked with one or two, and 58 % were involved in still wider sets of interactants (three or more) (Chart 1).

In her study of subject departments in American high schools, Siskin (1994) performed a network analysis of departmental profiles that took teachers' responses about their conversations with colleagues as a basis for her calculations. But such reliance on reports on verbal interaction may result in particularly biased views of teachers' cultures. Indeed, in the Portuguese study, focusing on teachers' joint planning relations, for example, created a much more isolated picture of teacher collegiality in Blue River than did focusing simply on their verbal communication patterns. Indeed, teachers in Blue River were involved

Chart 1. Percentage of loners, teachers involved with one or two colleagues, and teachers involved with wider ranges of colleagues in talk about teaching practice at the school level (Blue River).

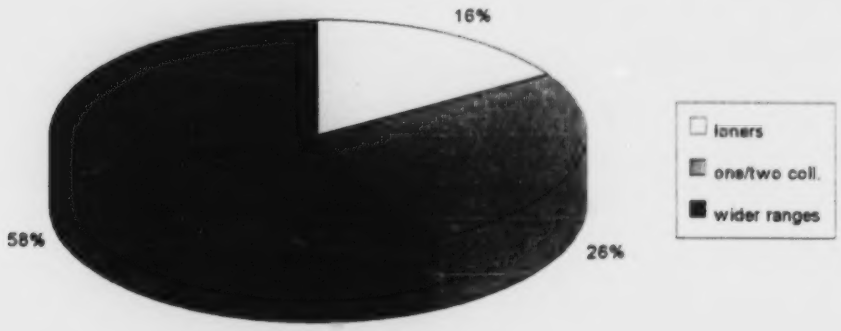
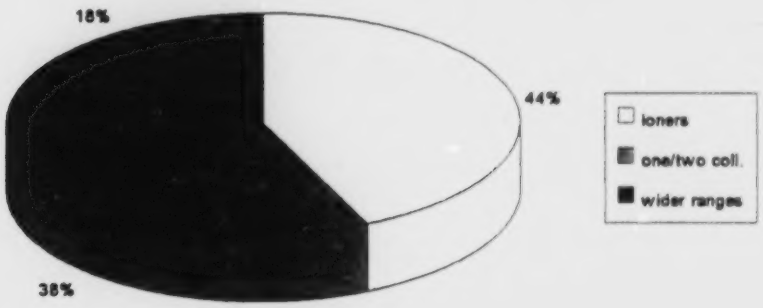


Chart 2. Percentage of loners, teachers involved with one or two colleagues, and teachers involved with wider ranges of colleagues in joint planning at the school level (Blue River).



in the joint planning of lessons with an average of 1.3 of their colleagues (1.0 %). Nearly half of all the teachers (45 %) did not plan jointly with any other colleague in their school (Chart 2). Moreover, only about one in five (20 %) prepared lessons together with three or more different colleagues.

Furthermore, restricting analysis to progressively stringent categories of frequency of interaction in most areas of professional contact (an issue that was raised by Little, 1990, but

not considered systematically in Siskin's study) yielded even more different results Not reported here - see Lima, 1997, with a severe reduction in the numbers of teachers involved with colleagues in the above mentioned types of professional interaction.

Overall, these results call attention to the importance of adopting methodological criteria that underscore conceptual claims about teacher collegiality. For example, it would be important to assess if the exemplary strong professional communities referred to by McLaughlin (1993) would stand the test of the methodological criteria proposed in this paper. McLaughlin describes a "highly collegial department" as "a workplace buzzing with daily conversations about joint projects, new materials to share, and plans for next week, next year, or tomorrow" (pp. 92-93). Would these cultures display significantly high ranges of informal professional interaction partners and high proportions of relations originating frequent contacts among colleagues in areas beyond mere verbal communication, entailing joint practice-oriented endeavors?

Of course, the question may also be put the other way around. McLaughlin also characterizes highly collegial departments as ones in which "teachers report a high level of innovativeness, high levels of energy and enthusiasm, and support for personal growth and learning", as well as "a high level of commitment to teaching and to *all* of the students with whom they work" (p. 94, the author's emphasis). This indicates that other criteria may be important for assessing teacher collegiality.

The use of particularly stringent criteria in the analysis of teacher-to-teacher interactions may show that, as Little (1990) suggests, much of what passes for collegiality may not amount to much. Thus, many of the studies that praise collegiality and collaboration may be celebrating things that are actually problematic. Unless researchers clarify with extreme care to what they are referring when they talk about "collaboration" or "collegiality" in schools, knowledge of the form of teachers' cultures will remain scarce and unsophisticated. Another way of improving our knowledge of this form is through the application of social network analysis concepts and techniques to our data.

2. EXPLORING THE NETWORK PROPERTIES OF TEACHERS' COLLEGIAL RELATIONS IN GREATER DEPTH

Teacher cultures can be characterized in a variety of ways, some of which have not received yet due attention from the educational research community. I propose further analyzing the *form* (or structure) of teacher cultures in terms of three main dimensions:

(1) *density* - the proportion of theoretically possible collegial relations among teachers that are actually present;

(2) *centralization* - the extent to which particular teachers are more prominent than their colleagues in the relational networks within their workplace;

(3) *fragmentation* - the extent to which the overall group of teachers in a given workplace is partitioned into smaller cohesive subgroups of individuals within which relations are particularly intense.[5]

The main inspiration for these concepts comes from the field of network analysis. Network analysts have contributed significant epistemological and methodological achievements to social science. They have posed new intellectual questions and have suggested alternative ways of conceptualizing social structures (Wellman, 1983, 1988). Social network analysis offers rigorous and fruitful analytic frameworks and methods for approaching each of the three dimensions of teacher cultures that I have put into relief.

To date, network analysis has proved fruitful in a wide range of disciplines and fields, covering diverse topics such as occupational mobility, social support, community issues, group problem solving, diffusion and adoption of innovations, belief systems, exchange and power, coalition formation, and consensus and social influence, to name just a few (Wasserman and Faust, 1994: 5-6). Furthermore, the available literature supports the view that "network variables add a unique contribution to the variance explained in a dependent variable, over and above the variance explained by non-network variables" (Rogers, 1987: 289). In a section significantly titled "Do Networks Matter? Effects on Human Behavior",

[5] The phenomenon that the term "fragmentation" describes is not necessarily an organizationally negative one. It is meant to be a descriptive rather than a moral term. For example, it may not indicate divisiveness, but rather specialization within an organization.

Rogers and Kincaid (1981: 83-90) have gathered evidence supporting the idea that the communication networks in which individuals are embedded function as a strong influence on their patterns of relationships with others.

However, social network analysis has seldom been applied in the field of education, and in particular in the study of teacher cultures.[6] Yet, it is a perspective with a strong potential for illuminating important sides of teachers' lives' in their workplaces. Through the use of network concepts in the study of the form of teachers' occupational cultures, we may be able to identify structural features in their collegial relations that would remain uncovered by the use of more conventional methods of analysis, and that are of critical importance for understanding these cultures.

My call for studies of teachers' cultures that include measures of both the form and content of these cultures finds support among network scholars, who frequently distinguish the form and the content of a network. Network *content* is what flows through a network (for example, information, or resources - e.g., what teachers interact about). *Form* refers to "the various properties of the overall configuration of relations in the network or its parts" (Alba, 1982: 42). As suggested earlier, in teaching, form may describe the configuration of teachers' patterns of association with one another.

Like networks, network *relations* also have both content and form. Knoke and Kuklinski (1982: 15) define *relational content* as "the substantive type of relation represented in the connections". They list the following general kinds of possible relations between social units, in terms of their content: (1) individual evaluations (e. g., liking, being a friend of); (2) transfer of material resources (e. g., lending, borrowing, selling, exchanging gifts); (3) transfer of nonmaterial resources (e. g., sending or receiving messages); (4) physical interactions (e. g., sitting next to, discussing with, working with); (5) physical (e. g., migrating) or social movement (e. g., ascending in the occupational ladder); (6) formal roles

[6] Charters (1969) developed early work with extensive use of network concepts and techniques. Siskin (1994) used network methodology to assess teachers' verbal communication in the academic departments of several American secondary schools. She refers to Eaton's development of a network analysis strategy to examine communication patterns among school staff (see p. 83). The most thorough application of the network perspective to the field of teachers' relations was conducted recently by Bakkenes (1996). Qualitative evaluations of teachers' professional networks as organized entities between schools (e.g., Lieberman & McLaughlin, 1992; Lieberman & Grolnick, 1996) speak of the professional power of networks, but in a different sense from the one used here.

(e. g., being teacher of, being an employee of); and (7) kinship (e. g., being married to, being a son of) (see also Scott, 1991).

Relational form refers to "properties of the connection between pairs of actors (dyads) that exist independently of specific contents" (Knoke & Kuklinski, 1982: 15). Burt (1982: 22) distinguishes two basic ways in which relational form has been measured in network analysis studies: the *strength of the link* between relational partners, and their *"level of joint involvement"* in the same activities. Another important indicator of relational form may be the *degree of reciprocation* in the exchanges between actors (Knoke & Kuklinski, 1982: 15).

The Portuguese study adopted all these alternative interpretations of relational form. Teachers' professional relations were scrutinized in terms of partners' level of joint involvement, operationalized as frequency of interaction; teachers' interpersonal relations were measured in terms of the strength of the links, operationalized as partners' attributions of the nature of their mutual relation (e.g., "an acquaintance", "a close friend"); and finally, teachers' participation in subgroups of particularly close associates was viewed in terms of reciprocation (e.g., members of a friendship clique view themselves mutually as friends).

I claimed earlier that the network perspective provides a fruitful and methodologically adequate set of techniques for approaching important dimensions of teachers' professional cultures. To illustrate this, I will take the example of network fragmentation.

A particularly important field in which the potential of the network approach is clearly unexplored in educational research is the formation of informal teacher groups within schools. This may be studied through interesting approaches, such as those inherent in the "component" and "clique" concepts in network analysis. *Components* are important elements of a network's structure. They represent connected subgroups in a disconnected network. They are maximal, in the sense that there is no tie between any actor in them and any actor outside them. As to the clique concept, it refers to "a sub-set of points in which every possible pair of points is *directly* connected by a line" (Scott, 1994: 117, emphasis added). It is a completely linked set of actors that is not contained within any larger set of actors with the same property (Knoke & Kuklinski, 1982: 56). While *components* are maximal and

connected (all actors are connected to one another *through paths*), *cliques* are maximal and *complete* (all points are *adjacent* - in direct relation - to one another) (Scott, 1994: 118). This leaves indirect ties out of clique construction. Therefore, component and clique measures identify two different but complementary aspects of network structure. Components are mutually exclusive; cliques may and usually do overlap. Components indicate network fragmentation into subgroups of actors between which there is no interaction; cliques represent *especially cohesive subgroups of actors who are all in direct interaction with one another*.

I propose that these concepts are ideal for testing important theses in the field of education, such as Lortie's (1975) thesis of teacher individualism and Hargreaves' (1994) thesis of the balkanization of today's secondary schools, as well as Little's (1990) critique of taken for granted assumptions on teacher collegiality, and Siskin's (1994) and Siskin and Little's (1995) views on the centrality of the subject department in teachers' professional lives.

In the Portuguese study, the analysis of network fragmentation provided useful information that contributes to a better understanding of teachers' patterns of informal association with one another for dealing with professional matters. It introduced components and cliques as key concepts for addressing network fragmentation in schools. Component analysis showed that the number of network components in Blue River and Greenhouse differed sharply across types of professional interaction and that the level of network fragmentation was substantively higher in networks of relations involving frequent interaction, when compared to general networks (networks comprising relations with all kinds of frequencies). Also, the level of network fragmentation in action-oriented relations (i.e., in relations that were not restricted to verbal exchanges among teachers, but involved some element of practical joint activity) was much higher than in talk-oriented relations (Table 1).

Table 1. Number of components in professional relations, in Blue River and Greenhouse.

		Talk student behav.	Talk teach practice	Exchange of materials	Joint develop materials	Joint planning
Blue River	*All Relations*	5	4	22	51	61
	Frequent Relations	29	29	73	79	83
Greenhouse	*All Relations*	5	7	14	17	29
	Frequent Relations	14	19	56	70	70

Additional analyses revealed that network components in action-oriented relations were internally much more homogeneous in terms of the subject department affiliation of their members. Also, in action-oriented relations, the size of large components was substantially lower than in talk-oriented ones, and the number of 1-member components within them was much higher. These findings suggest that in these schools' informal professional cultures there were few opportunities for collegial communication and sharing among important sets of teachers, especially with respect to more joint-practice related issues.

These results were supported and extended by clique analysis. As with components, the number of cliques in which teachers were involved was much larger in relations developed around talk than in action-oriented ones, and the number of cliques decreased as we moved from one type of interaction to the next. There were also much fewer cliques in the networks of frequent ties, regardless of the type of interaction.

In short, a network perspective on teacher-to-teacher interactions improved significantly the understanding of the teacher cultures in Blue River and Greenhouse. But the potential of using network analysis in our studies of teacher interaction can (and should) be taken even further.

3. COMBINING QUALITATIVE AND SOCIAL NETWORK DATA: A POWERFUL RESEARCH STRATEGY

The combination of qualitative and social network data can be a powerful means of going beyond teachers' narratives of their connections with colleagues, by contextualizing them in the webs of ties in which the narrators themselves are embedded. This approach was applied to the Math department in Blue River.[7] Interviews conducted in it focused on interviewees' accounts of collegiality, with a stress on their experiences, feelings, and interpretations of significant events in their professional lives in schools. Concomitantly, sociograms were constructed on the basis of the network data, to contextualize teachers' interview accounts. Below, sociogram information focuses on two particular types of interaction that represent important forms of interdependence in collegial relations among teachers: joint development of materials for students, and joint planning.

The Math department in Blue River consisted of eighteen teachers and was the most collegially active department in the school. Survey and network data suggested that the level of informal collegial interaction within it was particularly intense, when compared to most of the other departments in the school. The intensity of such collegial interaction in the department is apparent in the particularly complex interplay of informal professional relations that is depicted in Sociograms 1 and 2. In Sociogram 1 (joint development of materials), for example, while three teachers (Carol, Randall, and Roger) were totally unconnected to their department colleagues, and Bill was connected to only one colleague (Tina), most were immersed in a net of crosscutting ties that bound them to several colleagues through frequent interactions. Importantly, many of these collegial ties were strong, involving frequent interaction. Also, there were two subgroups of teachers where mostly frequent and mutual relations extended beyond the dyadic or triadic levels. One was the set formed by Frank, Maggie, Jennie, and Laura, the student teachers in the department. The other cohesive subgroup was formed by Donna, Raymond, Pearl, Jeffrey, and Gloria. There was also a

[7] Additional data on the Math department in Greenhouse and the English departments in both schools are available in the original study report (Lima, 1997).

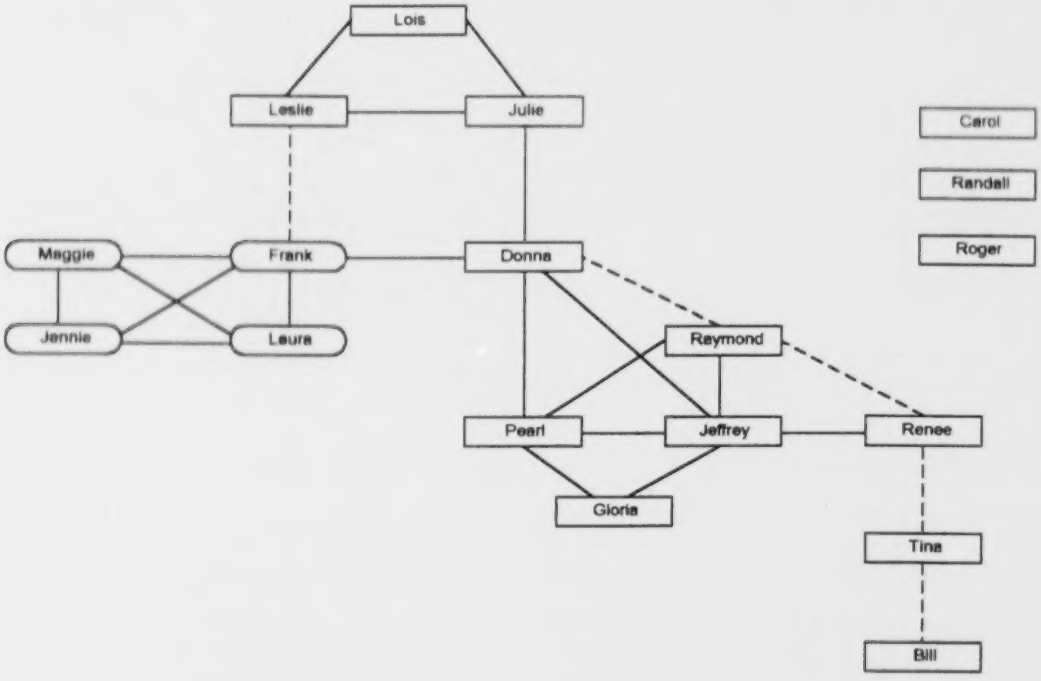
strong triad comprised of Leslie, Lois, and Julie. In Sociogram 2 (joint planning relations), most of these relational configurations persist.

The interviews that were conducted in the department revealed that it had a strong tradition of team work by grades, which had reached nearly mandatory status by the time of the study. Most of the members in the department participated in these teams. Team work was developed at several levels. First, it covered the whole school year, usually in an initial formal meeting coordinated by Pearl, the head of department. Following the head's instructions, grade level team meetings were subsequently held at the beginning of each academic term. Beyond these general meetings, more specific meetings took place. However, the latter were more contingent upon the characteristics of the particular subgroups of teachers involved. Rather than the result of a hierarchical demand, participation in more detailed and frequent joint work was an option of the teachers involved.

Let's take Leslie's (one of the interviewees) case. Her informal joint work throughout the year was carried out with two other colleagues, Lois and Julie (see Sociograms 1 and 2). They had a fixed schedule where they met regularly, once a week. They discussed curriculum content issues as well as strategic issues related to how to approach the program in the classroom. They exchanged materials among themselves and often produced these materials together, subsequently using them simultaneously in their respective classes. But, as Leslie stressed, there were also teachers who were not involved in any sort of joint work in the department, and teachers who opted for concentrating on joint work in only one of their grades, while adopting an individualized approach in the others:

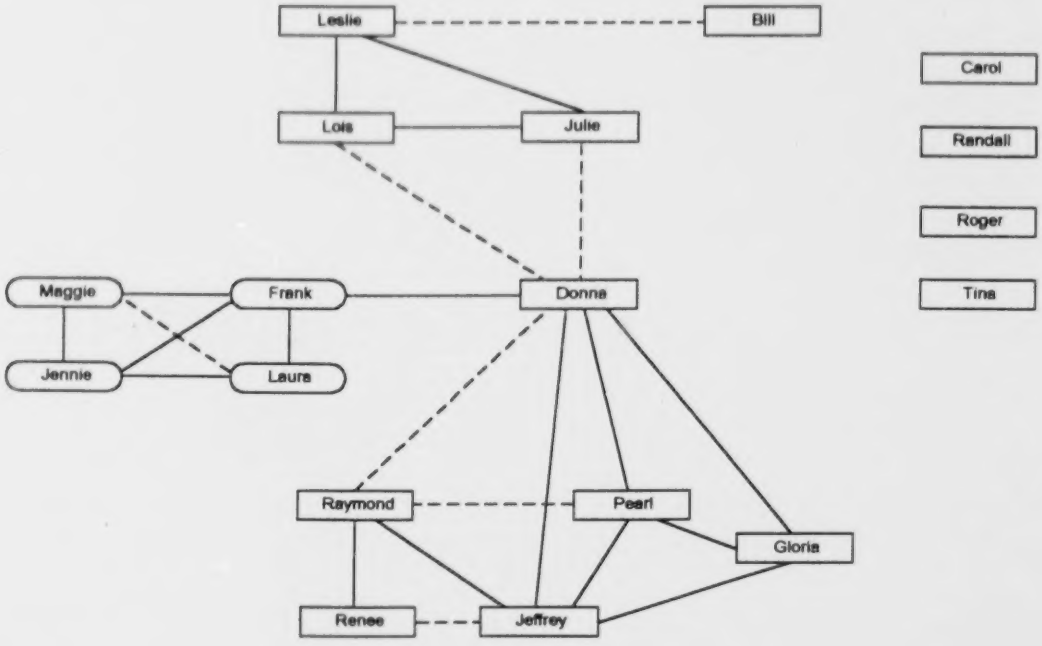
The Math induction unit in Blue River was comprised of four student teachers: Jennie, Frank, Laura, and Maggie. As can be observed in Sociograms 1 and 2, collegial connections between them and the remaining department members were scarce. In relations involving joint development of materials (Sociogram 1), there was only one strong tie connecting Frank to Donna (the induction supervisor), and a weak tie connecting Frank to Leslie. In joint planning relations (Sociogram 2), the ties were even more scarce: the only existing connection was the one linking Frank to Donna.

Sociogram 1. Informal professional relations in the Math department, in Blue River: joint development of materials for student use.



---------- *1 to 5 times;* _____ *6 or more times*

Sociogram 2. Informal professional relations in the Math department, in Blue River: joint planning.



---------- *1 to 5 times;* _____ *6 or more times*

Still, a few contacts (although mostly occasional and superficial) were made between the student teachers and some of the more experienced teachers in the department. Most of these contacts occurred with three department members in particular: Raymond, Leslie, and Randall. One of the things inductees admired in Raymond was the horizontal style of the relations he established with them:

> He's one of the best teachers in the department and, whenever he met us, he would show concern for us, "Is everything all right?", "Do you need any help?" You could tell he was friendly. "If you need any books, I have some that I can lend you". He would get us books and everything. He was really something else. And then he would talk with us, "Look, Frank, I have a class, all negative marks, I don't know what I'm going to do with them. Should I do one more test? What do you think?". And I would .. who was *I* to tell him? (Frank)

The inductees felt Leslie "treated the student teachers as colleagues" (Jennie). Leslie asked them often about the topics they had taught, and how they had taught them:

> Ever since the first term, she's one of the teachers who's also teaching one of our grades, and she comes to us often, "How are you teaching this topic? Did you mention this item?"; "What do you think is the best way of introducing the concepts". Or, "I like the worksheet you used, can I have a look at it?". She's one of the few people among the Math teachers whom I feel doesn't treat us like we were inductees who don't know a thing. She treats us practically like colleagues. (Jennie)

As to Randall, Frank described him as "one of the few teachers with whom one must work very well together". Randall constantly asked him what part of the program he was in. Once in a while, Frank lent him his worksheets, although he was never lent any himself.

But none of the student teachers *did* develop any part of their actual teaching with other people besides Donna and their induction colleagues. Besides, with the exception of Raymond, exchange of impressions and materials between the Math student teachers and the

few experienced teachers with whom they interacted in the department (particularly, Randall and Leslie) was not a reciprocal relationship. Help was often *given* to the experienced teachers, rather than received from them. Knowing that the student teachers usually prepared their classes and developed their materials with impeccable rigor, these two more experienced teachers seemed to regard contact with them as an opportunity to profit from the availability of teaching materials and information which they could apply to their own classes, since they had grades in common with the student teachers. Thus, their exchanges with the student teachers should be interpreted with care with respect to their significance as symbols of a collaborative and supportive approach to teachers' work. In this department, inductees remained secluded from most department members, were given very little power of decision over important curriculum matters, and gave out - rather than received - professional help.

Other internal divisions in the department are apparent in Sociograms 1 and 2. Especially in the latter one, it is clear that Donna, Pearl, Gloria, Raymond, Jeffrey, and Rennee constituted a very cohesive working sub-group within the department. The remaining experienced teachers were mostly dispersed and unconnected with most department members. Lois was involved in a small sub-group herself, working closely with Leslie and Julie, and had no ties to any of the members of the above mentioned sub-group, with the exception of an infrequent tie to Donna with respect to joint planning (Sociogram 2).

To summarize, the combination of network and interview data contributed to building a picture of this department as internally contradictory in terms of collegial activity:

- on the one hand, there was a strong subculture of collegial collaboration: a formal tradition of teamwork coexisted with significant informal collegial activity; the range of interaction was wide and intense (frequent associations abounded); and substantial pedagogical issues were eventually addressed through joint work, although in a mostly unsystematic way;
- on the other hand, important elements of individualization and internal fragmentation were also identified. For instance, teachers with several grades opted for joint

work in only one of them, some teachers avoided joint work altogether, and the induction unit established very few professional ties with the remaining members of the department.

The combination of the two types of data helped understand that, even in departments that are considered "very collaborative" (as is the case in this example), there can be a core of members that are collegially very active, coexisting with a number of teachers who opt for more individualistic approaches to their work. In short, it underscored the notion that, in certain circumstances the adjective "collaborative" is a generalized label that should be more rigorously applied to particular *subgroups* of teachers *within* departments rather than to schools or even to departments. Most of the times, these patterns are not apparent in individual teachers' interview accounts, even those coming from the most well-informed staff members.

The combination of network analyses with qualitative approaches should be viewed as an attempt to contribute to advances in the way teacher cultures are currently examined. The type of analysis undertaken can be regarded as an alternative to dominant approaches to the study of teachers' cultures. It helps put teachers' interview accounts into context by confronting and complementing them with structural and relational information obtained through a network survey. Thus, it avoids excessive reliance on particular reports of particular teachers as if these were omniscient narrators who held the power to narrate the way their cultures "really are".[8]

4. PAYING SYSTEMATIC ATTENTION THE ROLE OF FRIENDSHIP IN TEACHERS' COLLEGIAL INTERACTIONS

Many teachers in schools are not just one another's colleagues. They are also friends. Do these amount to the same thing? Does friendship enhance collegiality, or does it get in the way? What sorts of friendship are associated with what sorts of collegiality in schools? What are the consequences for schools' cultures of housing within them friendship networks? These

[8] A similar general point of view is offered by Andy Hargreaves (1996). It should be noted that the approach advocated here (a combination of network analysis and qualitative interviewing) is only one way of overcoming partial views of teachers' accounts, rather than *the* best way of achieving such a goal.

are some of the issues that need to be addressed in the field of research on teacher collegiality.

The study of personal relationships has shown remarkable progress in the past three decades, and the last ten years, in particular. Interpersonal relationship phenomena are being increasingly recognized as relevant for understanding many of the questions traditionally addressed by the social and behavioral sciences, such as the power of social bonds in shaping individual and group behavior, the production of meaning through interaction with others and, ultimately, the relation between social structure, personality, and social interaction.

Until the 1950s, the group was typically thought of as the primary environment of individual behavior and dyadic interaction was generally ignored. But since then attention has focused gradually on communication and interdependence in dyadic and other small-scale systems of face-to-face interaction. While the bulk of social psychological research until the early 1970s typically focused on restricted impressions and encounters, investigators then began addressing new topics, such as variations in degrees of relatedness, the development of deep mutuality, interpersonal behavior, social penetration, and friendship. The 1980s, in particular, witnessed significant progress in several substantive areas, including attribution, communication, conflict, emotion, gender differences, interdependence, loneliness, and trust. Importantly, researchers began identifying the contributions of communication research to the study of relationships, namely, by examining important relationship phenomena such as the negotiation of relationship forms, the maintenance of relationships in the context of the social networks in which they are integrated, and the processing of information regarding relational objectives and norms (Duck, 1985).

Yet, despite these developments, studies of teacher cultures usually treat the friendship concept as unproblematic. But, generally, the notion of friendship has been hampered by "conceptualizations that rely on superficial appearances, 'abstract generalities', normative models, and a priori categorizations" (Cohen & Rajkowski, 1982: 261). Problems of ambiguity and variability associated with the concept of "friend" have been discussed by several authors (Jacobson, 1975; Fischer, 1981; Cohen & Rajkowski, 1982; Rose & Serafica, 1986; Adelman, Parks, & Albrecht, 1987; Krackhardt & Stern, 1988; Allan, 1989). In

friendship research, there is lack of agreement about central issues such as the number of levels of friendship, and how to define and characterize them.

Some of the potential difficulties with conventional conceptualizations of friendship are that notions of friendship vary with several factors, such as culture, social class, gender, and age (Fischer, 1981; Allan, 1989). Also, while some people embrace a loose conception of friendship and consider persons with whom they have to achieve intimate relations as friends, others self-proclaim themselves as loners who have no friends, in spite of being involved in large and complex networks of personal ties from which they derive material and emotional resources. People may call "friend" someone who provides emotional support, someone who provides practical support in emergencies, or someone who just helps pass the time. Even researchers studying the more strict category of "close" friendships find that people use this label to refer to a very eclectic set of relationships. The term "friend" can cover a very wide set of qualitatively distinct relationships, from acquaintance to intimate, depending on the level of specificity called for in the particular circumstances in which the term is used (Allan, 1989). In short, friendship may take a wide range of forms, from the more contextually patterned to the more privately negotiated (Rawlins, 1994).

In organization theory, interest in the structure of informal ties in the workplace has been in place at least since the Hawthorne studies (Roethlisberger & Dickson, 1939). Despite a shift from a focus on micro processes to macro research in organizational studies from 1960 onwards, work groups continue to attract scientific interest, especially among researchers in applied fields and those concerned with problems of organizational change (Scott & Cohen, 1995). However, as Marks (1994: 847) observes, "modern sociologists have paid scant attention to workplace intimacy".

There are few empirical studies of informal groups within organizations and even less in secondary educational organizations. Yet, as Zorn (1995) notes, "One of the most important processes in organizations, at least from the perspective of organizational actors, is the formation of personal relationships. People create, manage, and terminate relationships with friends, lovers, and spouses at their workplaces, and doing so affects substantially the quality of life at work" (p. 147).

How emotion is expressed at work is an important component of an organization's culture (Van Maanen & Kunda, 1989). As Fineman (1993) stresses, emotions and organizational order intermingle in complex ways and organizational culture and the phenomenology of working are infused with issues of feeling. As the author put its, approaches to organizations have traditionally depicted the people that work within them as "emotionally anorexic" and leave us with the impression of organizations as "places where there is much head work, but little of the heart" (p. 13). In his view,

> We are left with an image of an actor who thinks a lot, plans, plots and struggles to look the right part at the right time. But we do not hear this actor's anger, pain, embarrassment, disaffection or passion or how such feeling relates to actions - except when it forms part of the organizational script. (p. 14).

For Fineman, feelings such as belonging, respect, or love[9] are the "social glue" that makes or breaks organizational structures and gatherings.

Early views on the work group in the beginning of the twentieth century regarded workers' affiliative tendencies within the workplace as an obstacle to the rationalization of production. For Taylor ([1911] 1967), the solution for this problem was not to manipulate the work group in the interests of the company, but instead to dissolve it into its individual components. Later, human relations theorists began to regard the group as a potentially advantageous element that could contribute to an organization's performance outcomes. Recently, the remarkable success of Japanese companies has revived interest in the work group in industry as a cooperative unit that holds the potential for fostering increased productivity. Today, benefits of organizational cultures where feelings of interpersonal affection and belonging are dominant are widely glorified. These forms of organizational culture have become "something of a commodity that those who run our large organizations deeply believe they must possess" (Van Maanen & Kunda, 1989: 51).[10] These perspectives

[9] For a discussion of romantic relationships in task environments, see Dillard and Miller (1988).

[10] Some managers have even begun to regard the small group as a form of co-worker association that is friendly to management and that might substitute the unfriendly worker union. But current rhetoric about groups in the workplace

have penetrated the literature and official discourse on school reform with much success in recent years.

While some studies of teachers' professional lives address the topic of friendship and personal relationships in general, relatively few make it a main focus of interest or develop a specific analysis of its structure, phenomenological significance, or educational impact in schools. With the notable exception of Andy Hargreaves' (1994) recent work on guilt in teaching, and numerous widely metaphorical and diffuse references to teachers' informal contacts with their school colleagues (e.g., Nias, Southworth & Yeomans, 1989; Little, 1990; Siskin, 1994), for several decades the emotional side of teachers' relations at work has been a neglected topic in educational research. Nias (1996) puts it best:

> Despite the passion with which teachers have always talked about their jobs, there is relatively little recent research into the part played by or the significance of affectivity in teachers' lives, careers and classroom behavior. Since the 1960s teachers' feelings have received scant attention in professional writing. At present, they are seldom systematically considered in pre- or in-service education. By implication and omission teachers' emotions are not a topic deemed worthy of serious academic or professional consideration. (p. 293)

In the literature on teacher collegiality, spontaneous informal associations between teachers have been used simply as a foil for understanding formal teamwork systems. Levinger (1994) describes that, after the emergence of "human relations" as an autonomous field of study in industry and other work contexts in the 1950's, pair relationships were generally ignored by relationship researchers as such and that, when they were studied, *socioemotional functions usually were seen in terms of their relevance for the understanding and improvement of task functions*. The current view of personal relationships in teaching seems to be an expression of the lasting influence of this "industrial relations" view of interpersonal relations in work contexts.

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sometimes obscures the important distinction between groups of horizontally relative equals (rarely viewed positively by management, because they are seen as a counter-force to the power of managers) and groups with positive bonds in the vertical direction (viewed in a much more favorable light by management) (Bramel & Friend, 1987).

Some relevant results

Perhaps one of most the important issues addressed in the Portuguese study is that of knowing how professional and personal ties among teachers overlap in schools. In this respect, results were revealing. Teachers interacted with more friends or close friends than they did with acquaintances about professional matters. Examination of the presence of professional issues in respondents' personal ties revealed that only about a maximum of 5 per cent of acquaintanceship relations, a maximum of about 16 per cent to 18 percent of friendships, and a maximum of about 35 per cent to 48 per cent of close friendships actually involved dealing with the professional-related issues under analysis. In an alternative view on the data, at least two thirds of all professional relations involved either a friendship or a close friendship relation between teachers. Moreover, the place represented by close friendships in these professional ties was larger than that of friendships in relations that involved joint action between colleagues (e.g., joint preparation of materials, joint planning). Cross-examination of professional clique results with close friendship findings was even more instructing. It showed that professional and close friendship cliques rarely overlapped in membership. In other words, only seldom did teachers participate in sub-groups in which all members were both mutual close friends and mutual informal work collaborators. Although personal ties were important springboards for the establishment of professional associations, this tended to be restricted to dyadic associations between colleagues, rather than triadic or wider associations.

The dual nature of friendship ties in teaching

Up to this point, I have argued that studies of teacher cultures have not yet explored the relationship between different levels of relating and distinct patterns of professional interaction (e.g., variations in interaction content and frequency across personal interaction types). But there is more to my argument. Indeed, the "undesirable" consequences of friendship ties for teaching have gone completely unaddressed.

But in schools, as elsewhere, co-worker friendship entails bonds that are less positive and beneficial than most arguments about creating collaborative cultures in schools admit. Involvement in friendship with fellow workers creates important dilemmas for teachers. In friendship, teachers both win *and* lose, professionally. In their discussion of the concept of "*blended relationships*" (i.e., close relationships between people who *simultaneously* have a role-based relationship, such as work associates), Bridge and Baxter (1992) propose six main dilemmas that are inherent in the tension between uniqueness in friendship bonds and the conventions of work settings in which these bonds are developed and maintained. These dilemmas nicely illustrate the potential dark side and the inherent duality of personal relationships among teachers in schools:

1. *Instrumentality vs. affection*. While blended friendships hold the potential for ensuring mutual provision of practical aid, the introduction of elements of utilitarianism in the relation (an inevitable feature of any task-related interaction) can be interpreted as threatening the rule that friends should be attracted to one another on the basis of their uniqueness, regardless of instrumental concerns.

2. *Impartiality vs. favoritism*. Due to the positions they occupy, friends have the ability to provide one another with various kinds of material, informational, and psychological support. This ability is at odds with the normative expectations of the work environment, which favor impartiality in the conduct of professional relations. In this sense, efforts to support one's work friends run the risk of being interpreted negatively as favoritism towards them.

3. *Judgment vs. acceptance*. A basic value of friendship is that friends accept each other as they are personally. However, whenever work roles introduce a component of critical evaluation (particularly among people in different hierarchical ranks), relations of empathy and understanding may be jeopardized.

4. *Autonomy vs. connection*. Working together in a common setting facilitates friendship, allowing friends to be proximate and accessible to one another. Yet, friends' work association may impose a strain on their friendship by leaving partners with little "space" for their private selves.

5. *Equality vs. inequality*. Structural inequalities inherent in the work environment may strain friendship norms of egalitarianism .

6. *Openness vs. closeness*. While close friends are expected to be absolutely open and sincere with each other (e.g., by sharing confidences as an expression of trust), this may conflict with organizational guidelines that call for preserving the confidentiality of particularly sensitive types of information. Conversely, one may feel obliged by one's role duties to violate the confidentiality of a friend's self-disclosed information.

Rook and Pietromonaco (1987) have provided one of the most in-depth developments of the idea that social relationships can be liabilities as well as assets in people's lives. The authors propose that, for each of the beneficial functions of social bonds, there may be a parallel detrimental function. They discuss three detrimental sides of helping transactions: ineffectiveness of help, excessive receipt of help, and excessive provision of help.

(1) *Ineffective help*. Others' efforts to be helpful can be ineffective for several reasons: recipients may feel indebted and uncomfortable for not being able to repay; help can be insensitive or unsound; and help that is offered grudgingly can lower morale.

(2) *Excessive help*. Usually, when help-giving becomes prolonged over time, the quality of interactions within relationships deteriorates. Also, the persistence of extensive help may foster or reinforce dependent behaviors. Additionally, the inability to reciprocate large amounts of help received may create feelings of guilt and shame. As to help-givers, the strenuous demands of caretaking can be exhausting and draining, especially when others' needs for support seem to be unending, to the point of jeopardizing the care provider's physical and emotional health.

(3) *Unwanted or unpleasant interaction*. Interaction with close others can be a source of an inevitable array of negative experiences that *directly* detract from well-being. Examples of such directly aversive situations are criticism, rejection, violation of privacy, and nonreciprocated affection or self-disclosure.

According to Rook and Pietromonaco, social relationships can also undermine individuals' health and well-being by promoting unstable, deviant functioning. For example, peer groups may prompt unhealthy behavior or encourage the endorsement of unconventional

and risky values and practices. For example, close friendships in teaching may promote, rather than discourage, work behaviors that are detrimental to students' welfare. Rook and Pietromonaco's work has been supported and complemented by other authors, most notably Albrecht and Adelman (1987), and La Gaipa (1990).[11]

Friendship is thus an inherently contradictory relationship that is composed of "antagonistic yet interdependent" aspects of communication (Rawlins, 1994: 278). These contradictions arise out of the interweaving of different personal biographies, dyadic practices, social collectivities, and cultural matrices. Tensions between friends are built into the very structure of the friend relationship. Rawlins (1994) identifies *four dialectical principles* that characterize the interaction of friends:

1. The dialectic of *affection and instrumentality*: "although true friendships are ideally based on mutual affection, friends often prove useful to one another, Yet, those who seek instrumental support run the risk of being viewed as 'using' their friends" (p. 75).

2. The dialectic of *judgment and acceptance*: "although friends are expected to accept one another 'warts and all', real friends are also expected to be trusted sources of feedback which, of course, implies critical evaluation" (p. 75).

3. The dialectic of *expressiveness and protectiveness*: "although friends should be free to communicate openly, saying anything to each other, such open communication often reveals areas of personal vulnerability and implies critical evaluation" (p. 76).

4. The dialectic of *independence/dependence*: "friends expect from each other the freedom to pursue life interests without interference, but simultaneously maintain the privilege of calling on one another in times of need; friends should not *impede* each other, but neither should they *impose* on one another" (p. 76, emphasis in the original).[12]

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[11] Several empirical studies (particularly, in the area of social support research) have identified the negative and harmful aspects of interpersonal interactions (Rook, 1984; Hays, 1985; Coyne & DeLongis, 1986; Pagel, Erdly, & Becker, 1987; Brenner, Norvell, & Limacher, 1989; Schuster, Kessler, & Aseltine, 1990; Goldsmith & Parks, 1990).

[12] Rawlins emphasizes that conflict can arise, not only from the contradictions inherent in these dialectics, but also from partners' ways of approaching the management of such tensions. This suggests that balance within friendships is always a temporary achievement, that the sources of conflict do not decrease at friendships deepen, and that conflict is an intrinsic component of friendship.

In sum, there is important work pointing out the need to temper overly optimistic views of the potential positive benefits of close interpersonal involvement with others. As Rook and Pietromonaco (1987) have warned,

> in our zeal to be helpful to others, we should be careful to avoid endorsing an ethic of sociability. Most individuals strive for an optimum level of social contact that balances the need for intimacy with the need for privacy. For some people this optimal level is achieved with very infrequent social contact. We should not reflexively assume that people with quite small or even non-existent social networks would benefit from forming new social bonds. The grounds for interventions must be well established. Ideally, such interventions should not seek to provide everyone with abundant close relationships but rather *to provide greater options* for those who genuinely suffer without such relationships or whose existing relationships are troubled. (p. 29, emphasis added)

The "undesirable" consequences of friendship ties for teaching: some empirical results

In the interviews in the Portuguese study, there was ample evidence of what Josselson (1996) calls the "pleasure of connection", the pleasure of "feeling not alone even if we are not in current or potential need" (p. 59). Interviewees derived an important part of their self-evaluation from their contacts with colleagues in their work contexts. Most of them enjoyed the daily interaction with their co-workers and tried to be supportive colleagues themselves.

Working with their close friends in schools influenced how they approached their work in important ways. It reduced anxiety towards handling new work tasks laden with uncertainty. It facilitated mutual agreement on (and understanding of) student assessment and joint planning activities. Furthermore, it influenced the degree of crossdisciplinarity contained in teachers' approach to the curriculum. Finally, lack of personal ties with others in the school made coping with professional difficulties particularly burdensome, especially when formal support was not available.

But working with one's close personal associates also carried disadvantages. One was the breaking up of subject departments' cohesion into fragmentary personalized loyalties to

particular sets of friends that undermined the groups' overall effectiveness in achieving work objectives. It also lead to partial and poorer perspectives on how to meet students' needs for development. Veronica, for example, spoke sadly of how in the "old days" teachers in her department used to work together and follow their students throughout the grade cycles. Commenting on how gradually teachers were becoming "specialists" of their own grades and the department's whole group was consequently being divided into sub-groups, she said:

> It has advantages and disadvantages (...). It has advantages because people try to teach particular grades perhaps on the basis of the responsiveness that they establish with other people, "Look, you're teaching grade eleven, I like to work with you, so let's both teach it". Something of that sort. It has a lot to do with personal affinities. It may carry a certain disadvantage in that perhaps one loses a kind of vision [of the curriculum] that would exist if more people contributed their opinions.

Veronica's restriction of professional contacts to her favorite personal associates also had consequences for the way she integrated her subject matter with others in the school. Her contacts with the History department provide a good illustration of this:

> Many times I dig in the History closet in search of many things, doing research all by myself, when there is a History department here in this school. It's interesting how I don't get along ... I mean, I get along with one person, but the poor colleague, she's reached a certain age and sometimes some of the proposals I made to her, she thought that would make her work too much, that she would have to research much and ... she held herself back, you see? So, I got her message. There are certain things that she will do. (...) But if it's something that is more contemporary, she feels insecure and she chooses not to participate. But I don't like the remaining members of the department. That's a flaw I feel I have. Because you could do extremely interesting things with Portuguese Literature and History, which I personally don't because I don't like the people in the History department.

Thus, while Veronica's working closely with preferred others smoothed work relationships and reduced anxiety over the invasion of her personal space, it also limited her perspective on professional matters by enclosing her within a protective niche that restricted her involvement in alternative ways of doing and conceptualizing teaching from which students might ultimately benefit.

The idea that good interpersonal relationships can be an obstacle to - as well as a beneficial factor for - the adequate performance accomplishment of work-related goals was also expressed well in Vera's evaluative and ironic comment on the achievements of her subject department head in her role: "She has been a stupendous head because she never bothers us. But she's not the head we need. She hasn't got the right [professional] profile".

By tolerating laxness, friendly relations among colleagues could get in the way of adequate role performance. For example, although Kathy's description of her subject department was one of the most positive among all reports in the interviews, she complained that her department colleagues didn't take their work duties as seriously as she would like them to. She attributed this to the type of relationship that prevailed among them:

> I think that from the large tolerance that exists in my department sometimes negative effects result, namely, not taking certain bureaucratic tasks seriously (like, for example, meeting deadlines for the presentation of lesson plans, or delivering written reports to the class director). (...) [Although this is a school-level problem], I think it is particularly serious in our department.
>
> *Question: Do you think they relax a bit because of the good climate ... ?*
>
> *Answer:* Exactly. "I'll give you that next week", and then, the following week, "Oh, sorry, I didn't have the time, I'll make it next week". In that respect, things haven't worked very well.

In another example, when asked about what a teacher can do when he or she learns about a colleague's professional malpractice, Leona replied:

> Look, there is very little that can be done. It depends on the person who notices it [the malfunction] and it also depends on the colleague who is being dysfunctional. (...). Usually, it's not easy to address a colleague and say, "Hey, be careful, don't do that!". It's not easy because we feel we're interfering with something that's none of our business. We also don't want to be answered, "What have you got to do with it?".

The priority given to the maintenance of friendly relations with colleagues impeded the addressing of improper professional conduct in teaching. In the above excerpt, Leona was referring in particular to the case of a colleague who, in her opinion, missed too many classes, excusing herself with arguments that were legally admissible, but not regarded by most teachers as acceptable from a professional point of view. Although for Leona (who held a department head position herself) this colleague was clearly violating an ethic of dedication to students' learning, she still did not feel she was invested with enough authority to interfere. Instead of asking this colleague not to miss classes so often, she opted for suggesting to her that she made easier tests so that the students were not impaired by the situation.

Thus, from a professional point of view, although teachers' interpersonal ties carried important potential advantages, they also restricted and hindered the accomplishment of several important job-related tasks. They broke up overall subject department cohesion and lead to fragmentary and inconsistent approaches to students' learning. They undermined curriculum integration across subject departments. They also served as protective shields that kept teachers from being held responsible for their inadequate task performance.

This shows that some interpersonal ties in the workplace may limit, diminish, or destroy teachers' opportunities for professional development in schools. This wider perspective may be more useful for organizing our thinking about interpersonal relationships in teaching than a simple, optimistic, and naive one celebrating the benefits of such ties while ignoring their unwanted consequences.

6. EMPHASIZING THE IMPORTANCE AND FUNCTIONS OF WEAK TIES IN TEACHING

Beyond their primary set of family and close friendship relations, people are immersed in a web of weaker social linkages. The term "weak ties" was apparently first coined by Granovetter (1973) to refer to these less intimate and less highly developed relationships. Educational studies that stress the virtues of friendship ties (especially close ones) in teaching may be understating the functional importance of weaker connections for the development of strong professional communities within schools. As Allan (1989) has observed in relation to friendship studies in general, research projects that concentrate on best or close friends may carry several disadvantages. These studies automatically exclude from analysis the full range of interaction partners to whom people apply the term "friend". Sociable relationships are organized in various ways and a narrowly defined conception of friendship is inadequate to deal with this variety. Close and intimate ties are not the only significant social connections in people's social lives.

As Adelman, Parks, and Albrecht (1987a) emphasize, weak ties play important roles in the development of social support networks. These ties are significant at various levels. First, they are developmentally significant, because they carry the potential to become strong ties. Second, they provide support in times during which stronger ties are disrupted (for example, due to unemployment, geographic dislocation, or the death of a close person). Third, they may provide compensation for a lack of strong ties. In particular, they may provide "a vital lifeline" for people who either do not desire strong ties, or are incapable of developing them. Finally, they transcend the limitations of stronger social ties to family and friends, which may limit individual freedom and action. Very strong ties may be "suffocating" (p. 129); they are less accessible to individuals with lower levels of communication skill; they may discourage acquisition of new information and social identities and thus retard innovation and change; they may prevent individuals from reaching out and achieving particular kinds of needed or desired resources; and they are often limited by the expectation of mutual reciprocity, and, as a consequence, individuals may not engage in particular courses

of action within them because they believe that they will be unable to reciprocate (this is likely to occur, for example, between team-teaching partners).

Since weak ties typically exhibit lower levels of interdependence, intimacy, and variety of contexts of activity than close relationships, this reduces the amount of energy that is needed to obtain support and thus extends peoples' pool of potential supporters. The density of the parts of individual's personal networks that contain weak ties is much lower than that of the parts of the network containing strong ties. As a result, they are more likely to be unfamiliar with each other and with an individual's strong ties. This feature of lower density facilitates the reduction of uncertainty and the pursuit of social support because it enhances individuals' perceived anonymity and thus allows them to seek information and support without facing the negative consequences of the uncertainty that is entailed by not knowing how those in primary relationships might respond. For example, some highly sensitive topics (like, for example, personal feelings of low effectiveness in particular areas of expertise in teaching) may be more easily discussed with weakly linked persons who are more socially distanced from the primary network than with friends. Lower network density also creates the possibility that weak ties function as contexts for experimenting with new behaviors and identities without the burden of being judged by those with whom one interacts regularly. Finally, since more people can be reached indirectly through one's weak ties than through one's close partners, access to new ideas and information is easier and more far-reaching through weak ties. Celebrating blindly strong, intense, affectionate ties in teaching helps underestimate the potential that weaker ties contain for the development of strong collegial cultures in schools.

CONCLUSION

Today, the literature on teacher collaboration and collegiality is voluminous. But concepts of collaboration and collegiality vary widely and operational measurement issues are generally neglected in studies of teacher interaction. Most work on teacher collaboration adopts a doctrinal posture and endorses the benefits of teachers working jointly, while usually

leaving unaddressed the different consequences that different forms of "collaboration" have on the way the act of teaching is performed. Most published work in the field of teacher collegiality is overly normative. This limits our ways of looking at teacher interaction and leads us to see in it what we want to see (and want *others* to see), rather than to understand more clearly actual patterns of teacher collegiality in schools and the contexts that help give them form and meaning.

In this paper, I argued that one of the ways through which we can overcome this state of affairs is by improving our study of the *form* of teachers' cultures, both by using clear observation criteria and by extending the still limited use of network analysis concepts and techniques in the field. The latter, it was argued, can be especially powerful analytical tools when combined with qualitative methodology and information on teachers' actual experiences of collegiality and isolation in their schools and departments.

Educational research needs to be less vague and speculative about teacher interaction. As Little (1992) claims, notions of independence and collegiality in teaching need to be rendered "at once more conceptually robust and more empirically sensitive" (p. 175). Ethnographic and interpretive studies of teachers are more than welcome in the field. But they need to be complemented with quantitatively oriented studies that specify precisely what is understood by terms such as "isolation" or "collaboration". Without quantitative measures, a fundamental but largely neglected aspect of the development of our theories of teachers' cultures will be lost: the comparative study of these phenomena across organizationally, culturally, and educationally diverse contexts.

Also, to improve our understanding of teacher interaction, we need to pay systematic attention to the role played by friendship in teachers' collegial interactions, as well as emphasize the importance and functions of weak ties in teaching. Whereas the existence and importance of teachers' interpersonal ties in their workplace is acknowledged by most authors in the field, it is usually taken for granted that the more there is of them, the easier and more beneficial teachers' professional collaboration will become. But the way teachers' professional and personal ties are articulated in practice is much more complex than what these views propose. To be able to assess the extent of this complexity, we must approach teachers'

personal ties to one another with the same conceptual rigor and the same methodological care that is warranted in the study of their task-related relations.

The study reported in this paper expanded upon previous studies of teacher interaction through the attention it gave to interpersonal relations in teaching. In the study, the importance of these relations for professional ties among teachers was examined and their potential for professional improvement was assessed. I argued that current emphasis on the professional side of teacher interaction should be complemented with studies of teachers' acquaintance, friendship, and close friendship ties with their colleagues within their schools and departments. The models developed by researchers and theorists studying personal relationships in general (e.g., Allan, 1989; Bliezner & Adams, 1992; Duck, 1994, 1997; Baxter & Montgomery, 1996; Fehr, 1996) provide valuable guidelines for those wishing to study teachers' interpersonal connections more closely.

In addition, we should examine in greater depth - both quantitatively and qualitatively - the relation between professional ties and interpersonal networks in schools. Relevant issues here include the extent of overlap between the two kinds of networks, the variations of professional and personal ties that are associated with distinct categories of interaction, and the functions fulfilled by both overlapping (multiplex) and non-overlapping (uniplex) relationships. Ultimately, what is called for is a more comprehensive view of the types and strength of relations in which teachers are involved with one another in their work environments.

Taken together, the findings of the Portuguese study testify to the interplay of personal and professional relationships in teachers' informal interaction contexts. This paper points out the narrowness of most approaches to the issue to date, and provides clues for improving a research perspective on teachers' cultures. It is important that researchers examining teachers' cultures broaden their views of teacher-to-teacher interaction. It is also important that they operationalize their conceptual tools in more precise and replicable ways. Theory and speculation stimulate empirical inquiry, but it is accurate research evidence that most effectively promotes substantive advances in understanding.

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